



**Energy
Procedia**

Energy Procedia 1 (2009) 4811–4817

www.elsevier.com/locate/procedia

GHGT-9

Understanding and improving NGO position on CCS

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Abstract

The importance of public acceptance of CCS has been highlighted by developers and policy makers, with all emphasising that it is a fundamental factor in the future success of CCS. However, little research has been done so far on NGO positioning on CCS. The current debate in Europe, with discussion beginning to result in both real projects on the ground and in real policies, has put NGOs more and more into a position of making open stands. This has resulted in a diversity of viewpoints, and the controversy has polarized opinions. In this paper we review our own research on NGO opinions on CCS, to spell out their most important concerns. We discuss NGO positioning vis-à-vis the ongoing negotiations of a legislative proposal to regulate CCS in Europe. Finally, we consider whether it is possible to come to more coherent approaches and agreements in a way that maximizes their effectiveness both as a counterweight to, and partner of, other stakeholders and governments.

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1. Introduction

Based on the conclusion of the research conducted to date [1], NGOs are more concerned about the risks of CCS than other stakeholders, and therefore will be more engaged in the issue before the public at large is aware of it. The lay public does not have well formed opinions on most issues which are not of immediate salience or relevance to their everyday life and livelihood [2]. Genuine public participation is likely to occur only in the local debate, once a planned CCS project starts to be built, and become more tangible. Before that, the debate is more an expert and general one, to which NGOs are expected to participate.

Environmental NGOs have historically been influential in shaping public perception of environmental issues and past experience shows that opinion can be quickly mobilised. There are several good examples of such shaping taken place. For instance, in the case of disposal of the Brent Spar oil storage and tanker facility in the North Sea, on February 1995, Greenpeace was successful in convincing the media, and consequently the general public, that disposal at sea would produce significant environmental risks [3]. By June 1995 plans to sink Brent Spar platform

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doi:10.1016/j.egypro.2009.02.308

were withdrawn by Shell, due to a boycott of the company's products heeded across much of continental northern Europe. This is one of the most dramatic cases of an NGO rallying public opinion quickly – moving an issue from totally unknown to highly charged in a matter of months. That it also involved a mis-estimation of risk is also perhaps of interest to bear in mind when considering CCS, where risk is complex to characterize and communicate.

Other examples include the role of campaign groups in shaping perceptions over genetically modified organisms (GMOs) and nuclear and other hazardous waste disposal [3, 4, 5]. Closer to the issue of CO₂ storage, proposals for underground natural gas storage schemes have generated public opposition in some localities [6].

People's attitudes to a message about CCS are likely to be positive when the communicator is both trustworthy and has a high degree of expertise [7]. Global surveys suggest that there is greater public trust in NGOs than in government, private sector corporations, or international organizations [8, 9, 10]. Particularly on environmental issues, NGOs are rated significantly higher as a source of credible information [11]. Specifically on CCS, a recent study conducted with local residents (n=103) in the vicinity of a potential storage site for carbon dioxide showed that the most trusted sources of information are NGOs, although trust in different actors appeared to depend on perceived competence and intentions [12].

The example of the conflict over a collaborative international field experiment involving CO₂ injections into ocean waters off the coast of Hawaii, in 1998, shows how important early, broad and sustained engagement needs to be. Despite intentions of a multi-year public outreach campaign, no campaign had been launched until a front-page article in the local newspaper *West Hawaii Today* was published entitled 'Feds to test impact of dumping CO₂ into Kona Waters'. Once the experiment became public, members of the general public and local environmentalists mobilized to form the 'Coalition Against CO₂ Dumping' and organized a two-year opposition campaign that, eventually, forced the project to move out of the region. A further attempt proposing to locate the experiment in Norway in 2002 faced Greenpeace and WWF opposition, arguing in particular violation of the OSPAR convention, a treaty that regulates ocean dumping in the northeast Atlantic Ocean. The tension was brought to a high point when Greenpeace sent one of its Rainbow Warrior ships to Norway to meet with environmental officials and draw attention to the project. Continued NGO pressure resulted in the vetoing the project by Norway's Environmental Minister [13, 14].

At this early stage of CCS development, environmental NGOs are thus particularly important as mediators between regulators, project developers and the public at large, while public formation is still nascent. NGOs are able to create attention both in support of and opposition to CCS technologies and policies, and as a result are recognized as important stakeholders in the current discussion.

2. NGO opinions on CCS

Based on a (qualitative) assessment of the literature, first-hand interviews and three workshops, we find that, overall, most NGOs seem to be convinced that ruling out CCS at this moment is counter-productive. NGO views on the rationale for CCS include the following arguments:

- To have CCS as a hedging strategy, in case energy efficiency and renewables do not fulfil their potential, or in case their pace turns out to be slower than what we believe it could be;
- The fact that CCS may give decision-makers the flexibility to set tough emission reduction targets and feel more comfortable to commit to real reduction (although other groups argue that more stringent regulations on CO₂ emissions will deliver advances in CCS, not the other way around);
- The strategic value to be able to 'lead by example'. OECD countries need to deliver the CCS technology so that countries like China will be *able* to apply it (whether or not they do, at least the option is there); and
- The feeling that by default, the alternative to CCS may not be successful renewables deployment, but a continuation of conventional coal.

Support for CCS is however usually conditional and even among those NGOs that favour CCS, there are several issues of great concern. The most important ones from the NGOs point of view – issues that if not addressed to their satisfaction may lead to active opposition to CCS – include the following topics, in a priority order²:

1. Diversion of effort from renewable energy (and energy efficiency), which are considered ‘proven solutions’ to mitigate climate change. It is widely agreed by the NGO community that CCS does not as such reduce the need to increase momentum on energy efficiency and renewable energy. The risk of diverting resources to CCS is thus of great concern, including the risk of enthusiasm for CCS taking too large a share of social and political capital;
2. Impact on ecosystems (including long-term leakage and acute short-term impacts);
3. Whether CCS is bridging or long-term, bearing in mind that in the long-term the goal is to decarbonise the economy and that we should avoid carbon lock-in [15];
4. Cost of deployment, with a focus on the use of public resources. It is felt by some that CCS has support from extremely profitable industries and should not need much additional financing;
5. Dangerous levels of leakage for humans (this is only lower in priority than ecosystems because it is felt to be a less likely problem);
6. The differential acceptance of different types of CCS (in-ocean disposal very unacceptable);
7. The full cycle impact of continued fossil fuel use (coal mining, facilitating coal to liquids, EOR³);
8. Scale of deployment (in the sense of physical infrastructure needed).

The following figure shows the importance of several issues for European NGOs in comparison to other stakeholders, and indicates how the different groups may value some topics differently:

² Not everyone shares these views even within green NGOs, but they are widespread and in most cases represent a good cross-section of current thinking.

³ EOR stands for enhanced oil recovery and refers to using CO₂ to pump more oil from a reservoir.

Figure 1: importance of issues for each stakeholder group (see key, below) [16]:

Stakeholder Group		R&D	Ind	Gov	NGO	P
Issue						
1. Regulatory Hurdles						
	Dangerous levels of leakage for humans					
	Impact on ecosystems					
	CO2 Pipeline Safety					
	Land use and related issues					
	Capture process/chemicals issues					
	Impact on drinking water					
	Concerns about miner safety					
	Effects of natural or induced seismicity					
	CO2 Pipeline Routing					
	Impacts on property values					
	Mineral rights / landowner approvals					
2. Cost of Deployment						
			*	*		
3. Scale of Deployment						
4. Information / Communication						
	Importance of broader energy context in shaping attitudes					
	Access to information					
	Information fit for purpose/useful to stakeholder group					
	Are efforts to communicate adequate					
5. Policy Hurdles						
	Ability of CCS to reduce emissions dramatically in short term					
	Diversion of efforts from renewable energy					
	Possible competition with nuclear					
	Impact of EOR on extending oil market				*	
	Impact of CCS on extending/expanding coal market					
	Full cycle impact of fossil fuel use					
	Differential acceptability of different kinds of CCS					
	Bridging or long -term?					

Key	
	Not currently driving opinion
	Positive driver of opinion
	Has potential to be a negative driver of opinion
	Negative driver of opinion
*	Strong difference of opinions within group

3. Policy scenario in Europe

In January 2008, the European Commission presented a Directive to regulate CCS (COM(2008) 18), and put forward a Communication on the realization and funding of ten to twelve demonstration plants (COM(2008) 13). Negotiations between the European Parliament, Member States and the Commission are ongoing, with significant tension remaining regarding the financing of CCS. In addition, parallel discussions are focusing on selection criteria for an EU Demonstration Flagship Programme, with emphasis being placed on how to accelerate CCS deployment.

With the reality of CCS technology on the ground becoming more present, public opinion formation has started to move from the theoretical and small-scale into the forefront, while putting NGOs more and more into a position of making overt public stands that they have largely avoided to date.

But with respect to CCS, the NGOs themselves are sometimes in a difficult position in their own work. This is because CCS represents an emerging technology that requires a policy position that challenges NGOs on several fronts, mainly for the following reasons:

- It is a quite technical area – the specifics are technical, complex and detailed, and although there is a core group of NGOs with expertise, as the issue broadens, more people need to understand it;
- The notion of fossil fuels as part of a climate mitigation strategy can be counterintuitive and may seem to be on contradiction to long-held support for renewable energy and energy efficiency. Also, there are questions of historical actions by energy firms and the trust, or lack thereof, that has been generated over time. The potential that large energy industries may become serious partners in greenhouse gas emissions mitigation distorts the worldview many environmental NGOs have long had in their work (bearing in mind that there is not much on-the-ground evidence yet to counterbalance this scepticism);
- CCS has some potential risks and involves some technical uncertainties, such as the behaviour of CO₂ in the underground, an area where we have relatively limited direct experience, and there is inherent variability in natural conditions. A greater uncertainty raised quite often is that CCS is itself not ready. Many believe that we are underestimating the difficulties of creating CCS at scale, but it is not clear though if this uncertain time-scale does really affect NGO views;
- The national context for discussions strongly colours opinions, and issues may be more important some places than others – for example as a replacement for nuclear energy (which is not a favoured energy source by nearly any mainstream NGO), or as a bargaining chip to support mitigation policy generally.

In Europe, in particular, two apparently contradictory views are now coming forward: those who support for CCS as a ‘realpolitik position’ (necessary to avoid significant warming), and those who oppose it in a ‘principled position’ (as a distraction or potential environmental, social or economic threat). These two competing approaches, of ‘needing’ vs. ‘not needing’ CCS, have polarized opinions, and the environmental NGO community appears to split into two groups: those who now openly question CCS quite seriously (Greenpeace, Friends of the Earth), and those who have been pushing for expansion of its role in the EU (WWF, E3G, Bellona).

In addition, the current discussions over the proposed EU legislation on CCS have highlighted disagreement among NGOs on more practical issues. In regard to the use of public resources to fund demonstration projects, for instance, even among those NGOs in favour of the move, some argue that public money can ‘buy’ public control over demonstration projects, making sure that we optimise portfolio of projects across technologies, projects and locations and strengthen knowledge sharing among project developers; some support public financing, but not from the EU emissions trading scheme (ETS), as this would dilute the nature of the scheme; some consider that public money should focus on geological storage, at least in Europe, because this is the CCS compartment that raises liability issues.

A common ground among these various groups is that public funding has to be targeted, limited and constrained, focusing on demonstration projects only. But in the absence of full scale demonstration, there is great uncertainty about the eventual costs of CCS, and optimistic predictions to gain public funding for projects could cause serious collateral damage to the acceptance of the technology.

Another issue of great concern among environmental NGOs is the concept of ‘capture ready’, which allows new coal-fired power stations to be built without providing any specific guarantee that CCS technology will be added at a

later date, or that a robust study of real transport and storage opportunities is in evidence. The theoretical debate in this case has moved to the local debate already, with opposition from community and environmental groups to E.ON's proposal to build two 800MW supercritical coal fired generation units at its site at Kingsnorth, in South East England, UK, saying that the plant would be 'carbon capture-ready'. In October 2007, Greenpeace UK activists occupied the plant in protest, saying that this was the first application for consent for a large coal fired power station in the UK in 20 years. In addition, in February 2008, Greenpeace UK obtained, under the Freedom of Information Act, details of an email exchange between E.ON and a civil servant in which the civil servant withdraws the condition that the plant should be capture ready, after the utility objects to it based on the fact that CCS 'has no current reference for viability at any scale' [17, 18].

4. Reconciling the views

Differences of opinion in the NGO community regarding CCS are clear, and vary from more fundamental issues (realism vs. idealism) to more practical issues. However, NGOs share common views, especially given the fundamental underlying agreement on the long-term goal of tackling traditional coal, and staying below 2 degrees global warming. In addition, environmental NGOs collaborate on a variety of issues. This is confirmed by the joint press statement on EU Climate and Energy Package signed by CAN Europe, Greenpeace, WWF and Friends of the Earth; joint campaigns (www.timetolead.eu); and the CAN Europe position paper on CCS, co-signed by Greenpeace.

Our findings confirm that the possibility exists for NGOs to come to more coherent approaches. There are various points of agreement around which future dialogue can grow:

- No new unabated coal
- Cut of existing subsidies for fossil fuels and nuclear
- Massive renewable energy and energy efficiency increase

For those groups who are close in opinion there seems to be appetite to find agreement on questions of approach, and there are opportunities to find mechanisms that meet the needs of groups that are more widely divided on the issue of CCS, for example limit emissions values which are agnostic as to technology.

5. Conclusion

The diversity of viewpoints among the various NGOs regarding CCS is not per se bad. It may be used as a lever to put pressure on industry and policymakers, improving CCS performance. In addition, some of Greenpeace's concerns are shared by other NGOs, such as that about capture ready power plants. Furthermore, some of the more critical NGO arguments are likely to represent what people in the real world feel, and these arguments will be faced more broadly as CCS emerges in the public discourse. Therefore, these critiques should push industry, policymakers and other NGOs to be more attentive and address problematic areas with due concern.

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